Chapter 4: Summaries of Risk and Preparedness

4 Overview

4.1 Wildland Fire Characteristics

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, the topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we are left with manipulating the third component of the fire environment, the fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to determine how fires burn.

A brief description of each of the fire environment elements follows in order to illustrate their effect on fire behavior.

4.1.1 Weather

Weather conditions are ultimately responsible for determining fire behavior. Moisture, temperature, and relative humidity determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant affect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

4.1.2 Topography

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant roll in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

4.1.3 Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and home sites (the structures) are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity and arrangement all have an affect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, “fine” fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber.

The study of fire behavior recognizes the dramatic and often-unexpected affect small changes in any single component has on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, the some of the principles that govern fire behavior have been identified and are recognized.

4.2 Canyon County Conditions

Canyon County encompasses 603.51square miles of land in the heart of Idaho. The mild climate, abundance of sunshine and lack of precipitation result in an environment that is potentially very fire prone. Although much of the native rangelands have been converted for agricultural purposes, there are many areas of native vegetation or non-irrigated fields that cure early in the summer and remain available to burn until the winter. If ignited these areas burn very rapidly, potentially threatening homes, safety and other valued resources.

The vast majority of Canyon County is held in private ownership, with very small portions of land held in federal ownership.

4.2.1 Vegetative Associations

Wildland fuels vary throughout Canyon County. Fuel composition and distribution is dependent on aspect, elevation, management practices and time since last burned. Perennial bunch grasses and cheatgrass dominate areas that have been disturbed by recent fires, while heavy sage, bitterbrush and rabbitbrush are present on north and east aspects that have not burned in the last decades. Areas dominated primarily by grass with scattered sage can be described as Fuel Models 1 or 2 (FM1 and FM2). Fires in these fuel types tend to spread very rapidly, especially when pushed by wind. Sage-dominated fuel complexes can be described as FM5 (for a complete discussion of fuel models, turn to 3.10.5). Fires in all fuel types found throughout the county can spread rapidly, especially when driven by the wind or when burning in areas with steep slopes. Thousands of acres can burn after only a single hour in grass and brush fuels. In heavy brush fires can travel at over eight miles and hour with flame lengths in excess of 50 feet. Fires of this intensity are nearly impossible to control with suppression resources, requiring a change in weather in order to allow crews and support equipment to gain the upper hand.

Agricultural areas in grain crops can be described as either FM 1, 2 or 3, depending on stage in agricultural production. During the period while grain crops are cured prior to harvest, the

mature crops are similar to tall grass (FM 3, greater than 2.5 feet in height). Fires in this fuel type tend to spread very rapidly with large flame lengths. Post harvest fuels are more typical of FM1, as residual harvest stubble is typically less than 1 foot in height. Flame lengths are rates of spread are reduced in the post-harvest condition. However, fires in these fuels can still spread quite rapidly and generate moderate flame lengths. Fuels between 1 foot and 2.5 feet can be described as FM2. However, the large flame lengths and high intensities these fires generate can be very threatening to homes and safety. Fires prior to harvest can also result in significant economic loss.

4.2.1.1 Ignition Profile

The dry climate, xeric vegetation, and prevalence of hot and windy conditions in Canyon County create environmental and vegetative conditions that will sustain fire spread in non-irrigated areas for many months of the year. This increases the probability that ignition sources from both natural (lightning) causes and human causes will find a receptive fuel bed. Natural ignitions are most likely to occur during summer lightning storms over the high ridges and undeveloped areas throughout the County.

Human ignitions can stem from numerous activities, including debris burning, fireworks, cigarettes, and campfires, particularly around high use areas where recreation is concentrated. Included in human ignition sources are fires sparked by vehicles, welding construction practices, hot catalytic converters, and arson. There is a strong correlation between human habitation and fire occurrence. The high population density in the area dramatically augments the human ignition potential.

Further contributing to ignition sources are the numerous high tension and residential power lines that criss-cross the county. Downed lines, malfunctioning transformers or even electrocuted birds can spark fires anywhere in the county. All these potential ignition sources and the dry nature of vegetation in Canyon County increase the potential for fire occurrence.

4.2.2 Countywide Potential Mitigation Activities

There are four basic opportunities for reducing the loss of homes and lives to fires. There are many single actions that can be taken, but in general they can be lumped into one of the following categories:

- Prevention
- Education/ Mitigation
- Readiness
- Building Codes

4.2.2.1 Prevention

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to prevent human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional “Smokey Bear” type campaigns that spread the message passively through signage can be quite effective. Signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can be quite effective. It’s impossible to say just how effective such efforts actually are, however the low costs associated with posting of a few signs is inconsequential compared to the potential cost of fighting a fire.

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed the reduction in human-caused ignitions by running a weekly “run blotter,” similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a weekly “tip of the week” to reduce the threat from wildland and structure fires. The federal government has been a champion of prevention, and could provide ideas for such tips. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary devise. Such a campaign would require coordination and cooperation with local media outlets. However, the effort is likely to be worth the efforts, costs and risks associated with fighting unwanted fires.

Fire Reporting: Fires cannot be suppressed until they are detected and reported. As the number and popularity of cellular phones has increased, expansion of the #FIRE program throughout Idaho may provide an effective means for turning the passing motorist into a detection resource.

Burn Permits: The issues associated with debris burning during certain times of the year are difficult to negotiate and enforce. However, there are significant risks associated with the use of fire adjacent to expanses of flammable vegetation under certain scenarios. Fire departments typically observe the State of Idaho Closed fire season between May 10 to October 20. During this time, an individual seeking to conduct an open burn of any type shall obtain a permit to prescribe the conditions under which the burn can be conducted and the resources that need to be on hand to suppress the fire, from a State of Idaho fire warden. Although this is a state-wide regulation, compliance and enforcement has been variable between fire districts. Tackling this issue is difficult. Typically, the duty falls to the chief of whichever fire protection district the burning is planned for. However, this leads to an increased burden on the fire chiefs, who are already juggling other department obligations with obligations to work and to home. There is also considerable confusion on the part of the public as to when a permit is necessary and the procedure for which to obtain the permit. The best-intentioned citizen may unknowingly break this law for a lack of understanding. Clearly, there is a need to coordinate this process and educate the public.

4.2.2.2 Education

Once a fire has started and is moving toward home or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. Also of vital importance is the accessibility of the home to emergency apparatus. If the home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event.

The uncultivated portions of Canyon County are comprised of remnant rangelands. These fuels tend to be very flammable and can support very fast moving and intense fires. In many cases, homes can easily be protected by following a few simple guidelines that reduce the ignitability of the home. There are multiple programs such as FIREWISE that detail precautions that should be taken in order to reduce the threat to homes, such as clearing cured grass and weeds away from structures and establishing a green zone around the home.

However, knowledge is no good unless acted upon. Education needs to be followed up by action. Any education programs should include an implementation plan. Ideally, funds would be made available to financially assist the landowner making the necessary changes to the home. The survey of the public conducted during the preparation of this WUI Fire Mitigation Plan indicated that approximately 35% of the respondents are interested in participating in this type of an activity.

4.2.2.3 Readiness

Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, rural fire departments are the first to respond and have the best opportunity to halt the spread of a wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of departments through funding and equipment acquisition can improve response times and subsequently reduce the potential for resource loss.

In order to assure a quick and efficient response to an event, emergency responders need to know specifically where emergency services are needed. Continued improvement and updating of the rural addressing system is necessary to maximize the effectiveness of a response.

4.2.2.4 Building Codes

The most effective, albeit contentious, solution to some fire problems is the adoption of building codes in order to assure emergency vehicle access and home construction that does not "invite" a fast and intense house fire. Codes that establish minimum road construction standards and access standards for emergency vehicles are an effective means of assuring public and firefighter safety, as well as increasing the potential for home survivability. County building inspectors should look to the fire departments in order to assure adequate minimum standards. Fire districts may want to consider apparatus that may be available during mutual aid events in order that the adopted standards meet the access requirements of the majority of suppression resources. In Canyon County, such standards may be drafted in consultation with the Fire Chiefs in order to assure accessibility is possible for all responding resources.

Coupled with this need is the potential to implement a set of requirements or recommendations to specify construction materials allowed for use in high risk areas of the county. The Canyon County Commissioners may want to consider a policy for dealing with this situation into the future as more and more homes are located in the wildland-urban interface.

4.3 Canyon County's Wildland-Urban Interface

Individual community assessments have been completed for all of the populated places in the county. The following summaries include these descriptions and observations. Local place names identified during this plan's development include:

Table 4.1. Canyon County Communities

Community Name	Planning Description	Vegetative Community	National Register Community At Risk?[1]
Nampa	City	Rangeland	Yes
Caldwell	City	Rangeland	Yes
Parma	Community	Rangeland	Yes
Notus	Community	Rangeland	Yes
Roswell	Community	Rangeland	Yes
Wilder	Community	Rangeland	Yes
Greenleaf	Community	Rangeland	Yes
Huston	Community	Rangeland	No
Melba	Community	Rangeland	Yes
Middleton	Community	Rangeland	Yes
Bowmont	Community	Rangeland	Yes

Westma	Community	Rangeland	No
Riverside	Community	Rangeland	Yes
Walters Ferry	Community	Rangeland	No

[1]Those communities with a "Yes" in the National Register Community at Risk column are included in the Federal Register, Vol. 66, Number 160, Friday, August 17, 2001, as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires". All of these communities have been evaluated as part of this plan's assessment.

Site evaluations on these communities are included in subsequent sections. The results of FEMA Hazard Severity Forms for each community are presented in Appendix II.

4.3.1 Mitigation Activities Applicable to all Communities

4.3.1.1 Home site Evaluations and Creation of Defensible Space

Individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Maintaining a lean, clean, green zone within at least 100 feet of structures to reduce the potential loss of life and property is highly recommended. Assessing individual homes in the outlying areas can address the issue of escape routes and home defensibility characteristics. Educating the homeowners in techniques for protecting their homes is critical in these environments.

4.3.1.2 Travel Corridor Fire Breaks

Ignition points are likely to continue to be concentrated along the roads and railway lines that run through the county. These travel routes have historically served as the primary source of human-caused ignitions. In areas with high concentrations of resource values along these corridors, fire lines may be considered in order to provide a fire break in the event of a roadside ignition. Access route mitigation can provide an adequate control line under normal fire conditions. Alternatively, permanent fuel breaks can be established in order to reduce the potential for ignitions originating from the main travel roads to spread into the surrounding lands.

4.3.1.3 Power Line Corridor Fire Breaks

The treatment opportunities specified for travel corridor fire breaks apply equally for power line corridors. The obvious difference between the two is that the focus area is not an area parallel to and adjacent to the road, but instead focuses on the area immediately below the infrastructure element. Protection under the high tension power lines is strongly recommended. This may be an opportunity for intensive livestock grazing practices as a tool for reducing fine fuels around significant infrastructure.

4.4 Individual Community Assessments

The objective of the community assessments is to determine the extent to which wildland fire threatens the safety of people, homes, infrastructure, and other important resources throughout Canyon County. Assessing fire risk can be a challenging, as there are numerous individual factors that individually or cumulatively define the overall risk to a community or area. Fuel characteristics, ignition sources, topography, proximity of fire protection resources, emergency vehicle access and egress, home construction, presence or absence of defensible space, and water availability are just some of the factors that determine risk.

The community assessments summarize the factors that have been identified as contributing to risk in a given area. Assessments are based on field observation as well as on discussion with local fire department representatives. By necessity, generalizations need to be made in efforts to assess risk. Each and every home site is unique, as are the characteristics of the home that contribute to its vulnerability to wildland fire. Thus the assessments attempt to capture the "average" condition, while noting attributes that significantly increase wildland fire risk in specific areas.

The assessments are followed by specific recommendations to address high hazard areas. The recommendations outlined in the Community Assessments generally focus on home site or community defensible space. Recommendations targeted at addressing county level policy or increasing fire resource capabilities will be addressed in Chapter 5- Mitigation Recommendations.

Elimination of all risk is not possible, nor is it desirable. Attempts at eliminating all risk would compromise the quality of life that Canyon County residents enjoy. Open space, native vegetation, recreation, and biological diversity would be adversely impacted if complete elimination of fire risk were to be the ultimate objective. The mitigation recommendations attempt to reduce risk to people, firefighters, homes and economically important assets at an acceptable level while not compromising the qualities that help define Canyon County.

4.4.1 Apple Valley

The community of Apple Valley is located along State Highway 20/26/95 in the northwestern part of the county. The primary land use in this area is agricultural with corn, onions, and apples being the most common.

Apple Valley is considered to be at a low wildland fire risk. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. Risk to homes situated on moderate slopes adjacent to or mingling with wildland fuels is moderate.

After harvest many of the crop fields set fallow, resulting in minimal risk of spread of wildland fire. The orchards do have a slight risk of wildfire with grasses found in the understory; however, most landowners mow and have irrigation systems thus alleviating any risk. The topography is generally flat to rolling foothills with some wildland fuels found along the canals. A few areas, primarily the steeper foothills are covered with cured grasses and sagebrush. There is some risk of fire spread in these areas.

Homes are found throughout the area and along many of the roads. Some driveways do pose some risk to the occupants due to their one-way in, one-way out nature. A few homes are constructed of non-fire resistant building materials. This appears to be most commonly found with decking materials. Screening and homeowner education will alleviate this problem. The area represents fuel models 1 & 2, which tend to support fast-moving, low intensity surface fires. Several potential water sources are found throughout the area with the D-line and Sebree canals to the east.

Apple Valley has several adequate escape routes that are at minimal risk. State Highway 95 and several county roads provide landowners with good escape routes. Some wildland fuels are present along roads; however, they remain at very low risk of wildfire due to being bordered by non-fire prone landscapes. Several secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

Most of the electric power appears to be delivered through above ground transmission lines. During high wind events, downed power lines can be a source of ignition. While burying existing

power lines may be cost prohibitive, long-term development codes may want to address this issue to encourage future sub-divisions to bury power lines.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Apple Valley is minimal due to the lack of topography and wildland fuels. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Apple Valley and the surrounding area. Field burning can increase the potential risk of fire threatening homes; however, the number of plowed fields and nearby water resources reduces the possibility of loss of life or property.

4.4.2 Bowmont

Bowmont is located approximately 7 miles south of Nampa on Bowmont Road near the Canyon and Ada County line. The Union Pacific Railroad travels directly through what is considered to be the community center. This area is primarily used for agricultural fields and pastureland, although there are a few clusters of homes.

Urban development is beginning to spread further south from Nampa making it difficult to distinguish between the communities. The few remaining pieces of undeveloped or uncultivated land are covered with low growing sagebrush and various arid climate grasses including non-native species such as cheat grass. This area represents fuel models 1 & 2, which tend to support fast-moving surface fires. The Mora Canal and several smaller streams provide seasonal water resources for irrigation.

The primary access into the community is by Bowmont Road off State Highway 45. This is a paved two lane road that, due to agricultural development, is located in a low fire risk area. Several other secondary roads lead into the area providing adequate escape routes for residents.

The risk of wildfire threatening Bowmont is minimal due to the lack of topography and fuels. The use of the Union Pacific Railroad near town and the presence of high tension power lines in the area could potentially serve as ignition sources in fine fuels along roads. Annual field burning could potentially threaten homeowners; however, services, water resources, and plowed fields decrease this risk.

4.4.3 Caldwell

The community of Caldwell is located near the junction of Interstate 84 and U.S. Route 20 approximately 6 miles northwest of Nampa. This area has been completely urbanized; thus, there is no clear line of demarcation between Caldwell and the cities of Nampa, Middleton, or Bowmont. There are a few agricultural lots remaining on the outskirts of the community (particularly towards Middleton); however, urban development is continuing in all directions. This area is very flat with numerous seasonal canals and small streams providing water resources. There is very little risk of wildfire threatening the urban community of Caldwell, so fire mitigation activities are unnecessary in this area.

4.4.4 Deer Flat National Wildlife Refuge

The Deer Flat National Wildlife Refuge is a small strip of protected land surrounding Lake Lowell, which is a fairly large body of water approximately 3 miles southwest of Nampa. There are several interpretive signs and rest areas surrounding the lake in addition to a designated Recreation Area on the north shore. Black cottonwood and other hardwoods and brush grow thick around the marshy edges of the lake. The northern shore has become part of the Nampa urban complex while the southern shore is dominated by small clusters of homes and various agricultural crops and pastureland. This area is well traveled, but the lack of wildland fuels put it at low risk of wildfire. Fire mitigation in the Deer Flat National Wildlife Refuge beyond regulating the use of campfires and off road vehicles is unnecessary.

4.4.5 Green Leaf

The community of Green Leaf is located along State Highway 19 approximately 10 miles west of Caldwell. The land use for the area is primarily agricultural with corn and onions being the most commonly observed crop. After harvest many of the fields set fallow, resulting in minimal risk of wild spread wildland fire. The topography is mostly flat with some rolling foothills in the area. Many of the foothill areas are covered with cured grasses and intermittent patches of sagebrush.

Homes are found throughout the area and along many of the roads. Some of the driveways do pose a minimal risk to the occupants as they tend to provide one-way in, one-way out access. The Green Leaf area represents fuel models 1 & 2, which tend to support fast-moving, low intensity surface fires. Several good water sources are available throughout the area, particularly the Gate Canal, which passes just south of Green Leaf.

The primary access into Green Leaf is from State Highway 19 from Caldwell. While some wildland fuels are present along this road, it is at very low risk of wildfire due to being almost entirely bordered by agricultural fields combined with the mowing of the right of way. Several other secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

Most of the power appears to be delivered through above ground transmission lines. During high wild events downed power lines can be a source of ignition. While burying existing power lines may be cost prohibitive, long-term development codes may want to address this issue to encourage underground delivery of power.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or C 3 agricultural crops. The primary wildland fire risk is to the homes found in the areas surrounding Green Leaf. These at risk homes are commonly situated on moderate slopes adjacent to or mingling with wildland fuels. There are several seasonal streams and canals that may provide water resources during the fire season.

The risk of wildfire threatening the community of Green Leaf is minimal due to the lack of topography, the agricultural land use, and the wildland fuels. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Green Leaf and the surrounding areas. Annual field burning can increases the potential risk of

fire threatening homes; however the number of plowed fields and nearby water resources reduce the possibility of loss of life or property.

4.4.6 Huston

The community of Huston is located 10 miles southwest of Caldwell, Idaho near the Low Line canal. The primary land use in this area is agriculture. Many of the fields are plowed and left fallow following harvest, resulting in minimal risk of wildland fire spread. The topography is generally flat to rolling foothills with some wildland fuels found along the canals. A few areas, primarily the steeper foothills, are covered with cured grasses and sagebrush. There is some risk of spread of fire in these areas.

The town of Huston is primarily located outside the center of the community. Most homes are found throughout the surrounding area and along county roads. Some of the driveways pose a risk to the occupants due to the one-way in, one-way out nature of these roads. Some homes are constructed of non-fire resistant building materials. This appears to be most common when associated with the decking materials. Screening and homeowner education will alleviate this problem. The area represents fuel models 1 & 2, which tend to support fast-moving surface fires. Several potential water sources are found throughout the area with canals to the north and the south.

The primary access into the area is by State Highway 55. The risk to the escape routes is minimal due to the broken nature of the fuels found in the area. Huston residents have several adequate escape routes that are at minimal risk. Some wildland fuels are present along roads; however, they remain at very low risk of wildfire due to being bordered by non-fire prone landscapes. Several secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

Most of the electric power is delivered to homes and businesses through above ground transmission lines. During high wild events downed power lines can also be a source of ignition. While burying existing power lines maybe costs prohibitive, long-term development codes may want to address this issue to encourage future sub-divisions to bury power lines.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Huston is minimal due to the lack of topography and wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Huston and the surrounding area. Field burning can increases the potential risk of fire threatening homes; however the number of plowed fields and nearby water resources reduce the possibility of loss of life or property. Risk to homes situated on moderate slopes adjacent to or mingling with wildland fuels is moderate. There are several seasonal streams or canals that may provide water resources during the fire season. Fuel types in this area generally burn along the surface at lower intensities making them somewhat less dangerous for firefighters to suppress.

4.4.7 Melba

Melba is located approximately 5 miles south of the community of Bowmont. The area around the community is very flat and used primarily for agricultural purposes or pastureland; however, rolling hills and plateaus can be seen to the east and west and the Snake River canyon is approximately 5 miles to the south. The slopes of these plateaus are generally very rocky and vegetated by sagebrush and short grasses. Few residences have been built on these slopes, most preferring to remain on the more fertile flats. Waldvogel Canal and several other small streams provide seasonal water resources for irrigation. The Snake River and Jensen Lake supply additional water resources in the event of an emergency. This area represents fuel models 1 & 2, which tend to support fast-moving surface fires.

The primary access into Melba is from Melba Road off State Highway 45. This is a paved two lane road that, due to agricultural development, is located in a low fire risk area. Several secondary roads travel into the area providing additional escape routes for residents. Additionally, a Union Pacific Railway travels through the city center.

The risk of wildfire threatening the community of Melba is minimal due to the lack of topography and fuels. However, homes in outlying areas near plateaus or adjacent to wildland fuels are at significantly higher risk. Annual field burning in the area increases the potential risk of fire threatening homes, but plowed fields, and nearby water resources reduce the possibility of loss of life or property due to an escaped agricultural fire. The use of the railroad near town and the presence of above ground power lines in the area could also potentially serve as ignition sources.

4.4.8 Middleton

The community of Middleton is located along State Highway 44 approximately 3 miles northeast of Caldwell. Although agricultural development is the primary land use, this community is quickly becoming incorporated into the Nampa-Caldwell urban complex. The majority of this area is very flat; however, the northeastern corner of Canyon County (northeast of the community center) is characterized by gently rolling foothills. Much of the foothills area is covered with cured grasses and intermittent patches of sagebrush. Homes are scattered all along roads throughout this area, many of which are one-way in, one-way out. The Bureau of Land Management also maintains a fairly large parcel in this area. The Middleton area represents fuel models 1 & 2, which tend to support fast-moving surface fires. Willow Creek, Middleton Canal, and the Boise River provide water resources for irrigation or emergency services.

The primary access into Middleton is from State Highway 44 from either Caldwell or Star. This road is at very low risk of wildfire due to being almost entirely bordered by agricultural fields. Several other secondary roads access the community and the foothills providing additional low risk escape routes. An active Union Pacific Railway also travels directly through the community, which could potentially serve as an ignition source. Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Middleton is minimal due to the lack of topography and wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. However, homes in the outlying foothills area or adjacent to BLM lands are at significantly higher risk of experiencing a wildland fire. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Annual field burning in the area increases the potential risk of fire threatening homes, but plowed fields, and nearby water resources reduce the possibility of loss of life or property due to an escaped agricultural fire. The use of the railroad

near town and the presence of above ground power lines in the area could also potentially serve as ignition sources.

4.4.9 Nampa

The community of Nampa is located along Interstate 84 approximately 6 miles southeast of Caldwell. This area has been completely urbanized; thus, there is no clear line of demarcation between Nampa and the cities of Caldwell, Middleton, or Bowmont. There are a few agricultural lots remaining on the outskirts of the community; however, urban development is continuing in all directions. This area is very flat with numerous seasonal canals and small streams providing water resources. There is very little risk of wildfire threatening the urban community of Nampa, so fire mitigation activities are unnecessary in this area.

4.4.10 Notus

The community of Notus is located along State Highway 26 approximately 10 miles northwest of Caldwell. The primary land use is agricultural. After harvest many of the fields set fallow, resulting in minimal risk of wildland fire spread. The topography is flat to rolling foothills. A few areas, primarily the steeper foothills are covered with cured grasses and sagebrush. There is some risk of wildland fire associated with the river as the hardwood trees in the area can provide a source of spotting along the river bottom. Areas along the river have a high accumulation of fine fuels, where in the event of a wind driven wildfire, rapid spread can be expected.

Homes are found throughout the area and along many of the roads. Some of the driveways do pose some risk to the occupants due to the one-way in, one-way out nature of these roads. Addressing this issue where wildland fuels are present should be considered. The Notus area represents fuel models 1 & 2, which tend to support fast-moving surface fires. Several potential water sources are found throughout the area with the Boise River to the south of the community and Sebree canal to the north.

The primary access into Notus is from State Highway 20/26 from either Caldwell or Parma. While some wildland fuels are present along this road it is at very low risk of wildfire due to being bordered by agricultural fields. Several secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

A Union Pacific Railway travels south of the community. This can be a potential source of ignition that needs to be monitored. Controlling the build up of wildland fuels in this area will reduce the overall risk to the community. Electric power is delivered to area residents and businesses through above ground transmission lines. During high wild events downed power lines can also be a source of ignition. While burying existing power lines may be cost prohibitive, long-term development codes may want to address this issue to encourage this activity.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Notus is minimal due to the lack of topography and wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Notus and the surrounding area. Annual field burning can increase the potential risk

of fire threatening homes; however, the number of plowed fields and nearby water resources reduces the possibility of loss of life or property.

4.4.11 Parma

The community of Parma is located along State Highway 26 approximately 25 miles northeast of Caldwell. The land use for the area is primarily agricultural with corn and onions being the most commonly observed crop. After harvest many of the fields set fallow, resulting in minimal risk of wild spread wildland fire. The topography is flat to rolling foothills. Much of the foothills area is covered with cured grasses and intermittent patches of sagebrush.

Homes are found throughout the area and along many of the roads. Some of the driveways do pose some risk to the occupants due to the one-way in, one-way out nature of these roads. The Parma area represents fuel models 1 & 2, which tend to support fast-moving surface fires. Several potential water sources are found throughout the area with the Boise River to the south of the community and Sebree canal to the north.

The primary access into Parma is from State Highway 20/26 from either Caldwell or Apple Valley. While some wildland fuels are present along this road, it is at very low risk of wildfire due to being almost entirely bordered by agricultural fields. Several other secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

A Union Pacific Railway travels south of the community. This could be a potential source of ignition that needs to be monitored. Controlling the build up of wildland fuels in this area will reduce the overall risk to the community. Power is delivered to area residents and businesses through above ground transmission lines. During high wind events, downed power lines can also be a source of ignition. While burying existing power lines maybe costs prohibitive, long-term development codes may want to address this issue to encourage this activity.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Parma is minimal due to the lack of topography and wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Parma and the surrounding area. Annual field burning can increases the potential risk of fire threatening homes; however the number of plowed fields and nearby water resources reduce the possibility of loss of life or property.

4.4.12 Roswell

The community of Roswell is located near State Highway 95 approximately 5 miles south of Parma. The land use for the area is primarily agricultural with corn and onions being the most common crops. After harvest many of the fields set fallow, resulting in very low risk of wildfire. The topography is mostly flat with some areas of rolling foothills to the south of the community. Some of the foothill areas are covered with grasses and patches of sagebrush.

Many of the homes in the area are associated with farming operations and can be found along county roads and are usually surrounded by agricultural fields. Some of the driveways do pose some risk to the occupants due to the one-way in, one-way out nature of these roads. Concerns with access are limited due to the abundance of agricultural development and the available

safety zones associated with the fields. The Roswell area represents fuel models 1 & 2, which tend to support fast-moving surface fires. Several potential water sources are found throughout the area with the Riverside Canal just south of the community.

The primary access into Roswell is from State Highway 95 from Parma. While some wildland fuels are present along this road it is at very low risk of wildfire due to being almost entirely bordered by agricultural fields and the mowing of the right-of-ways. Several other secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

Power is delivered to area residents and businesses through above ground transmission lines. During high wind events, downed power lines can be a source of ignition. While burying existing power lines maybe costs prohibitive, long-term development codes may want to address this issue to encourage this type of activity.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Roswell is minimal due to the lack of topography, the surrounding land use and the lack of available wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. Some homes in the outlying foothills area surrounded by wildland fuels are at some risk, particularly during wind driven events. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes and/or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents. Annual field burning can increase the potential risk of fire threatening homes; however, the number of plowed fields and nearby water resources reduces the possibility of loss of life or property.

4.4.13 Wilder

The community of Wilder is located at the junction of State Highway 19 and Highway 95 approximately 20 miles west of Caldwell. The land use is primarily agricultural with corn and onions commonly grown in this area. After harvest many of the fields set fallow, reducing the overall risk to the community from wildland fire. The topography is mostly flat with some areas of rolling foothills. Many of the foothill areas are covered with grasses and sagebrush.

Many homes are associated with small farming operations and can be found throughout the area along the county roads. Some of the driveways do pose some risk to the occupants due to the one-way in, one-way out nature of these roads. This risk is minimized due to the safety zones created by the agricultural fields in the area. With fuel being noncontiguous and the availability of safety zones this issue can be easily addressed. The Wilder area represents fuel models 1 & 2, which tend to support fast-moving, low intensity surface fires. Several potential water sources are found throughout the area with the Golden Gate Canal to the south.

The primary access into Wilder is from State Highway 19 from Caldwell and State Highway 95 from the north and south. While some wildland fuels are present along this road, it is at very low risk of wildfire due to being almost entirely bordered by agricultural fields and the mowing of the right-of-ways. Several other secondary roads access the community and the foothills providing low risk alternate escape routes for local residents.

Most of the power appears to be delivered through above ground transmission lines. During high wind events downed power lines can also be a source of ignition. While burying existing

power lines may be cost prohibitive, long-term development codes may want to address this issue to encourage burying the power lines.

Road names and house numbers are generally present throughout the area, yet many of the bridges crossing the numerous canals and small streams lack adequate signing and weight ratings.

The risk of wildfire threatening the community of Wilder is minimal due to the lack of topography, land use, and wildland fuels. Those structures located within the community center are well protected from wildland fire by large areas of lawn, pasture, or agricultural crops. However, homes in the outlying foothills area are at some risk. Many of these homes are located on private drives or dead end roads directly abutting wildland fuels. Providing alternative escape routes and/or safety zones is recommended in these types of areas. This is mostly an awareness issue for the residents of Wilder and the surrounding area. Annual field burning can increase the potential risk of fire threatening homes; however, the number of plowed fields and nearby water resources reduces the possibility of loss of life or property.

4.4.14 Community Mitigation Activities

In many cases, homes' survivability can be greatly enhanced by following a few simple guidelines that reduce the ignitability of the home. "Living with Fire, A Guide for the Homeowner" is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Individual home site evaluations wherever rangeland fuels are in proximity to homes and improvements can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Current management of the vegetation surrounding most homes provides some protection. However, maintaining a lean, clean, green zone around structures to reduce the potential for loss of life and property is recommended. Assessing individual homes in the outlying areas can address the issue of escape routes and home defensibility characteristics.

Ignition points are likely to be concentrated along the roads and travel corridors and other significant infrastructure. In areas with high concentrations of resource values along these corridors, plow or disk lines may be considered in order to provide a fire break in the event of a roadside ignition. Passage with a disk parallel to an access route can provide an adequate control line under normal fire conditions. Also, keeping ditches along roads mown and clear of surface fuels will reduce the possibility of accidental human ignition. It is important that people recognize and follow rules concerning campfires and trail restrictions in designated recreation areas as well.

Canyon County should continue to implement programs related to the signing of roads and house numbers in order to facilitate emergency response in these areas. Posting clear road signs warning of traffic restrictions, such as dead-ends and bridge restrictions are all imperative in a wildfire emergency.

4.5 Firefighting Resources and Capabilities

The Firefighting Resources and Capabilities information provided in this section (3.4) is a summary of information provided by the Rural Fire Chiefs or Representatives of the Wildland Firefighting Agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. ***In an effort to correctly portray their observations, little editing to their responses has occurred.*** These summaries indicate their perceptions and information summaries.

4.5.1 Wildland Fire Districts

4.5.1.1 Bureau of Land Management, Boise District

- Boise BLM Fire Office, 3948 Development Ave., Boise, 83705; 208-394-3400
- Hammett Guard Station, north of Exit 112 on Interstate 84, 208-366-7722
- Bruneau Guard Station, Hot Creek Road, Bruneau, 208-845-2011
- Wild West Guard Station, Exit 13 off I-84, 208-454-0613

The Department of Interior, BLM, provided funding for this Wildland-Urban Interface Wildfire Mitigation Plan. The Boise District BLM has been involved in Canyon County through assistance to rural fire districts and national fire prevention programs.

The Boise District BLM encompasses approximately 3.9 million acres of BLM-managed land in southwest Idaho. Through agreements with the Idaho Department of Land and the National Forest Service, the BLM also provides support on IDL and FS lands in some areas within the district boundary. The boundaries of the district extend north from the Nevada border following the Bruneau River fairly closely before heading east along the Saylor Creek Air Force Range boundary to the Elmore County line. Then, it heads north to the confluence of the Snake River. The border follows the Snake River east to the community of King Hill before turning north again following the King Hill Creek drainage to the Township 1S, Range 10E line, where it heads due north to the southwest corner of Section 6. The border, then, stair steps in a northeasterly direction just past the Elmore County line to the Township 2N, Range 12E line; then heads five miles due west to the Elmore County line. The eastern boundary follows the Elmore County line to where it meets the Blaine County line. The District boundary, then, follows the foothills west and north across the Boise Front; up Highway 55 and includes some scattered areas into the Crouch area; then jogs in a northwesterly direction to the Oregon border west of New Meadows.

Special features within the district include the 485,000-acre Snake River Birds of Prey National Conservation Area; the Owyhee Canyonlands; portions of the north and south fork Payette River corridors; the Owyhee Mountains, including the historic Silver City area; the Bruneau River canyon; and several popular recreation areas and wildland-urban interface areas.

The district's primary station is located in Boise, where 2 crews, with 2 engines per crew are based, along with both helicopter and fixed-wing aircraft resources. One of the two Boise crews is typically stationed during the day at Boise Fire Station #2 at the base of the foothills. Additional day-use stations are available in Kuna, Hidden Springs, and Eagle.

Furthermore, the district has out stations at Bruneau, Hammett, and Wild West (at Exit 13 on Interstate 84). Each facility is staffed by one crew, with two to three engines (depending on fire activity and yearly budget), on an 8-hour day, 5-day per week basis (on call 24/7) from mid June to mid September. Bruneau and Hammett will have different days off to provide 7 day coverage between the two guard stations. A dozer has historically been based at Hammett and will be based there when funding is available.

Wild West Guard Station is going to be demolished this spring with plans to build a new station. In the meantime, Wild West will be stationed at the Middleton Station #1 Fire Department in downtown Middleton.

BLM crews are neither trained nor equipped for structure suppression. Primary protection responsibilities are on public land throughout southwest Idaho and the BLM responds to fires originating on public lands and those on private land that threaten public land. Additionally, through mutual aid agreements with local fire departments, the BLM will provide assistance when requested on wildland fires.

The BLM does not provide formal EMT services. The crews are trained in first-aid, and some staff members have EMT and first-responder training, but this is not a service the BLM provides as part of their organization.

Personnel: The fire program staff totals 110-135 individuals, including 20 permanent employees, 40 career-seasonal employees who work up to nine months each year, and 75 seasonal employees on staff from roughly June to September. These are all paid staff members trained in wildland fire, but not in structure protection.

Mutual Aid Agreements: The BLM has an interagency working relationship with the US Forest Service (Boise National Forest and Payette National Forest) and the Idaho Department of Lands. The crews are dispatched on a closest-forces concept to public lands. Additionally, the BLM has mutual aid agreements with 37 community fire departments.

Top Resource Priorities:

- **Training:** Increasing the amount and level of training for and with partner community fire departments.
- **Communications:** Using the Rural Fire Assistance Program to allow departments to purchase radios to facilitate communication, coordination, and safety at the fire scene.

The district encompasses a broad spectrum of resources at risk, including recreation sites, power lines, wildlife habitat, wilderness study areas, wild horse management areas, historic districts, cultural and archaeological sites, and a range of vegetation types, from rare plant species to sagebrush and timber resources.

Table 4.2 summarizes available equipment.

Table 4.2 Boise District Equipment List for Wildland Fire Protection

Assigned Station	Make/ Model	Capacity (gallons)	Pump capacity (GPM)	Type
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Hammett	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Bruneau	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Wild West (exit 13, I-84)	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Internat'l	Heavy 800 – 1,000	120 GPM	Wildland
Boise	Ford	Light 300	120 GPM	Wildland

- The Boise District has 3 dozers, one of which is stationed in Hammett (may change in 2005); and two in Boise
- The Boise District also has 3, 3,500 gallon water tenders.
- There are 4 Fire Lookouts, one on Squaw Butte, north of Emmett; one on South Mountain, southeast of Jordan Valley; one on Danskin Peak, north of Mountain Home; and one on Bennett Mountain, northeast of Mountain Home.

Additionally, suppression resources include:

- **Helicopter:** The district has a new compact for 2005 helicopter on contract from June to October and an 11 member helitack crew. U.S. Forest Service helitack crews stationed at Lucky Peak and Garden Valley are available for assistance if needed and if they are not assigned elsewhere. Additionally, there are other helicopter resources equipped for fire missions that are available on a call-when-needed (CWN) basis.
- **Fixed-Wing:** The district has a contract AeroCommander 500S fixed-wing aircraft, staffed by a pilot and the air attack supervisor. The air attack supervisor coordinates aerial firefighting resources and serves as an observation and communications platform for firefighters on the ground.
- **Air Tankers:** There are typically two air tankers (fire retardant planes) on contract in Boise during the fire season. However, these aircraft are considered national resources and are assigned where they're needed at any particular time. These tankers have recently been grounded and may or may not be available for use in the future. Other, nearby, air tankers are located in McCall and various locations in Nevada and Oregon. There are also contract single-engine air tankers (SEATS) located in Oregon and Twin Falls, Idaho.

The primary operational challenges facing the district include:

- Continued development of wildland-urban interface areas across the district.
- Communications and coordination with current, new, and developing community fire departments and working with them to stay abreast of communication and technological developments so that we can continue and improve working together effectively at the fire scene.
- Internally, an operational challenge is to have sufficient and appropriate staff available throughout the year to foster partnerships with local departments and facilitate continued and improved coordination, training, communications, and other joint efforts with our partners across the district.
- Our effectiveness in addressing these challenges will largely hinge on funding available for the fire program and its various elements.

4.5.2 City and Rural Fire Districts

4.5.2.1 Caldwell Fire Protection District

Station #1 (208) 455-3032

The Caldwell Fire Department protects the City of Caldwell and the Caldwell Rural District. Our district boundaries border Middleton, Wilder, Parma, Nampa, Homedale, and Marsing Fire Dist. boundaries.

Staffing: We are a combination department with 8 career personnel on-duty, with off-duty personnel subject to call and 15 Paid on Call Members complete our roster of 50 personnel. All personnel are wildland fire trained.

Mutual Aid Agreements: We work with all of the departments in the area and have auto-aid agreements with most. In addition we have mutual aid agreements with all. We regularly perform joint training these agencies.

Protection Responsibilities: We are a full service department and respond to Fire/EMS/Tech Rescue/Haz Mat as well as other requests for services.

Current Equipment:

Truck #	Year	Make	GPM	Capacity	Structure-Wild land
101	1992	E-One	1500	1000	Structural
102	1999	BME	1500	1000	Structural
105	1982	Pierce	1500	750	Structural/Wildland
121	2002	BME	1250	3000	Structural/Wildland
131	1990	E-One	1500	400	Ladder Truck
141	1995				Rescue Truck
152	1990	Dodge	250	200	Brush Truck

Greatest Equipment Needs: We have none so we would first need training and equipment.

4.5.2.2 Melba Rural Fire Protection District

Richard Farner, Fire Chief
PO Box 183
Melba, Idaho 83641
Rf21kma@aol.com

District Summary: Melba Rural Fire Protection District is responsible for the structure and wildland fire protection for the southern part of Canyon County as well as the Southwest corner of Ada County.

Priority Areas: The last several years we are experiencing residential growth in the area around Melba

Communications: Communication capabilities in our district are fairly adequate. There are some areas that are difficult to communicate with our dispatch, which is located at the Canyon County Courthouse, Caldwell, Idaho.

Firefighting Vehicles: Due to our budget, one of our biggest concerns is replacing some of our aging vehicles such as our tender that runs not only on our fires but is used a lot for mutual aid with other departments.

Burn Permit Regulations: Burn ban periods need to be addressed.

Effective Mitigation Strategies: Future plans are looking into building a 2nd substation in the northern part of our district as well as updating our present tanker.

Education and Training: The Melba Fire Department each year participates in fire safety week with the schools. We also give smoke detectors and install to those that need them. We do training through the state and we have certified wildland trainers in our department.

Cooperative Agreements: Melba Rural Fire Protection has mutual aid agreements with Canyon, Ada and Owyhee Counties as well as with the BLM and IDL.

Current Resources:

1962 American LaFrance	Pumper Engine	1000 gal	750 gmp
2000 Freightliner	Pumper Engine	1000 gal	1250 gpm
1987 GMC	Tanker	3000 gal	350 gpm
1976 Dodge	Brush Truck	300 gal	150 gpm
1986 GMC	Brush Truck	300 gal	150 gpm
1989 GMC	Brush Truck	300 gal	200 gpm with foam
2004 GMC	Brush Truck	300 gal	200 gpm with foam
1993 GMC	Pickup		
1987 GMC	Command Vehicle		

Future Considerations: Updating our tanker to a pumper-tanker combo. Do to the volunteer nature of the department, we need to consider looking into putting full time staff on when budgets will allow.

Needs: More volunteers that can respond to daytime calls. Times have changed over the years and we due need more help in some kind of funding. The public expects more and more and it's extremely hard for volunteer fire departments to keep up with the pace.

4.5.2.3 Middleton Rural Fire Protection District Station #1

(208)585-6650

Middleton Rural Fire Protection District provides services from 2 modern fire stations in a geographical area covering 200 square miles in both Canyon and Gem counties. Services provided include EMS, Fire suppression and prevention activities for structural, wildland and urban interface, Technical rescue, HAZMAT operations.

Middleton Fire District is staffed by 47 part time paid personnel and 3 career personnel. Monday – Friday from 08:00 to 17:00 the 3 career personnel cover the station. Station coverage of 24/7 is accomplished by augmenting with part time paid personnel who cover nights and weekends. Minimum staffing includes 3 personnel on a structural engine and 2 personnel on the rescue apparatus at station 1. Nearly all personnel (42) are cross trained in structure and wildland fire.

Mutual aide agreements are in place for all agencies in Canyon and Ada Counties as well as the BLM. The District is also a member of the Intermountain Regional Mutual Aide Agreement. The District also leases space at Station 1 to the BLM for forward deployment of the Wild West Guard Station. This unit consists of 3 Type 4 engines and overhead personnel for the duration of fire season.

The District is made up of 10% urban area, 20% desert wildland surrounded by urban interface, and 70% agricultural. Historically the District will respond to an average of 700 calls per year of which 55% are EMS calls, 34% are wildland fires, 2% are structure fires and the remaining 9% are mutual aide and other call types.

Truck #	Year	Make	GPM	Capacity	Structure-Wild land
301	1958	ALF	750	750	Type II
302	2001	BME	1500	1000	Type I
303	1993	KME	1250	1000	Type I
361	2000	Dodge	125	300	Type 6
362	1999	Intl	150	750	Type 4
364	2004	Ford	150	300	Type 6
321	1978	Ford	500	3500	Tender
326	2000	KW	1250	3900	Tender
331	2001	Pierce	1500	300	75' Quint

The Districts top three priorities in order: 1. Improved communications system for the area in the foothills to enhance communications with dispatch and mutual aide agencies. 2. Training for the establishment of an all hazard Type 3 local overhead team. 3. A mapping system that will interface with CAD and is easy to update or have updated on a regular basis.

4.5.2.4 Nampa Fire Department

Administration Offices
Ph. 468-5770
1103 2nd St. So.
Nampa, Idaho 83651

Station # 1
Ph. 468-5771
923 1st St. So.
Nampa, Idaho 83651

Station # 2
Ph. 468-5772
1001 E. Greenhurst Rd.
Nampa, Idaho 83686

Station # 3
Ph. 468-5773
7935 Birch Lane
Nampa, Idaho 83687

Station # 4
Ph. 468-5774
2112 West Flamingo Ave
Nampa, Idaho 83651

Our District is primarily suburban with some agricultural land; it includes the entire City of Nampa and the surrounding Nampa Rural Fire District. The total area served is approximately 80 square miles with a total population of 83,000.

Nampa Fire Dept has 57 Full-time Firefighters there are 19 Firefighters on-duty each day. They work 24 hr shifts, Stations are staffed 7 days a week / 365 days a year. All firefighters are trained in wildland as well as structural firefighting.

We have written Mutual Aid Agreements with all the fire departments in our County (Canyon) as well as Ada County. We also have signed onto the Intermountain Regional Mutual Aid

Agreement (IRMA) which is being developed as a multi-state mutual aid agreement for all hazards including wildland fires.

Our department's responsibilities include structure fires, wildland fires, hazardous materials, technical rescue, emergency medical (ALS), fire prevention and code enforcement.

Equipment type by District

Truck #	*Year*	*Make*	*GPM*	*Capacity*	*Structure-Wild land*
E-401	1996	Pierce	1,500	1,000 Gals	Structure
E-402	1996	Pierce	1,500	1,000 Gals	Structure
E-403	2002	Pierce	1,500	1,000 Gals	Structure
E-404	1999	Pierce	1,500	1,000 Gals	Structure
T-421	2000	Intrnl	750	3,000 Gals	Structure/Wildland
S-461	2000	Ford	200	400 Gals	Wildland

Top resource priorities include increased training, more personal protective clothing & shelters, and additional equipment.

4.5.2.5 Notus Fire Department

Mike Skogsberg, Asst. Chief
Notus Fire Department
PO Box 201
Notus, ID 83656

April 7, 2005

District Summary:

Notus City Fire Department is responsible for structural and wildland fire protection with in the city boundaries as well as automatic aid agreements with surrounding departments.

Priority Areas:

Notus is starting to experience residential growth. It is anticipating some commercial growth with in the next ten years.

Areas of Concern:

At present time Caldwell Fire Department provides EMS coverage for Notus. They have a 14-minute response time; it is preferable to have no longer than a six minute EMS response. To accomplish the quicker response time, Notus Fire Department needs to provide EMS coverage.

Due to our small district, the tax base is small. This makes it difficult to have an adequate budget to meet all the growing needs of the district.

Apparatus/Equipment Needs:

Due to our small budget it is impossible to replace aging equipment and apparatus.

Communication:

At present time our communication needs have been met by another grant. In the future government regulations will require us to become P25 compliant or using 700mhz. This will mean more communication expenditures to remain compliant.

Training and Education:

Currently most of our personnel meets or exceeds Firefighter I, Driver/Operator, NWCG standards for wildland firefighters, and most recently Fire Officer.

Cooperative Agreements:

We have mutual aid agreements with the Treasure Valley, BLM and IDL.

Current Resource List:

1974 American LaFrance	Pumper Engine	500 gallon	1250 gpm
1956 American LaFrance	Pumper Engine	500 gallon	500 gpm
1964 Howe	Pumper Engine	500 gallon	1250 gpm
1969 6x6	Tanker	1600 gallon	250 gpm

4.5.2.6 Parma Rural Fire Department

James Cook, Chief
208-722-5716 station, 208-722-6175 home
parmafire@widaho.net
P.O. Box 429
Parma, Idaho 83660

District Summary

The Parma Rural Fire District is comprised of land in Northern Canyon County and Southern Payette County. We provide protection to the City of Parma and the town of Roswell as well as outlying areas. Our total area is approximately 180 acres, which includes the urban areas, farmland, and BLM property. We have one station, currently in Parma City at 2nd and Main. We are in the process of remodeling a building at 29200 Hwy. 95, just north of the city limits. We hope to occupy this new site by September 2004. We are a full volunteer department with 25 members. Our main duty is to protect life and property (structures) within our district, but we also provide mutual aid to departments within the Snake River Chief's Association and the Canyon County Chief's Association. Also within our district is an ambulance service providing medical transport services to our community.

Priority Areas

Residential Growth: As the valley grows, the expansion continues into the outlying areas. We are witnessing this within our community. We have two new subdivisions within city limits, one with 17 lots and another with 31 lots. The latter has two more phases to go through, making its total over 90 new houses. This does not include the new houses and business structures in the country. With this growth we will need more resources.

Communications: Communications with our dispatch center is not as good as it should be. We have several areas with virtually no coverage, by either radio or cell phone. Repeaters in strategic locations are needed for the safety of our emergency crews, both fire and ambulance, as well as police. We also need more portable radios for better scene control and firefighter safety.

Firefighting Vehicles: Vehicles are always a concern. With limited resources we are always struggling to maintain our fleet. We have applied for grants for vehicles but have been unsuccessful thus far. We will continue to do so until our fleet is current.

Burn Permit Regulations: Our county has a burn ordinance, but lacks the resources to properly enforce it. All open burning needs to be monitored for safety, and compliance with ordinances.

Effective Mitigation Strategies

Our district continually tries to keep pace with expansion in our fire protection areas, and has been able to purchase two fire vehicles is the past 7 years, one rescue truck and a 3000 gallon tender. The intent of the department is to continue to replace our aging fleet with newer and more reliable vehicles.

We have a process to inspect driveways of new residences in our district. This will ensure good access for our firefighting vehicles.

Future plans include radio repeaters in strategic locations, adding more portable radios, and continuing to upgrade our facilities. We will need to look at additional stations as our area grows.

Education of the public with regard to open burning would be beneficial to everyone. Knowing when and how to burn would reduce the amount of public assist type calls for our department.

Education and Training

Our department stresses the importance of good training, and provides in-house training at least twice a month. In addition to this training, we are members of the Snake River Valley Training Association as well as the Treasure Valley Training Association. These associations offer additional in-depth training to us year round. We encourage our members to take advantage of all the training they can.

Cooperative Agreements

The Parma Rural Fire District has mutual aid agreements with the Snake River Chiefs Association and the Canyon County Chiefs Association. These agreements link us to more than 30 area fire departments. We also work with the BLM on ground in Payette County that is in our district, but is public property managed by them. We have a good working relationship with all of the above mentioned agencies.

Current Resources

- 1968 Ford American-LaFrance Structural Engine with 500 gallon tank and 500 gpm pump
- 1968 American-LaFrance Engine with 500 gallon tank and 1000 gpm pump
- 1974 International Tender with 1700 gallon tank and 125 gpm pump
- 1986 Chevrolet Tender with 1700 gallon tank and 125 gpm pump
- 2001 International Tender with 2950 gallon tank and 500 gpm pump
- 1997 International Rescue Vehicle with 500 gallon tank and 250 gpm pump
- 1991 Ford F-250 Brush Truck with 200 gallon tank and 125 gpm pump
- 1991 Ford F-700 Brush Truck with 300 gallon tank and250 gpm pump
- 1999 Chevrolet Command Vehicle

**All of the above vehicles are the property of the fire district.*

Future Considerations

The Parma Rural Fire District will continually strive to update our equipment and facilities. We will occupy a new station in late summer 2004. This will give us adequate storage for all of our current equipment under one roof. When our district grows in its population base, another station will need to be added, possibly two. As with all fire districts, our primary concern is firefighter safety and protection of our citizens from fire damage or loss of life. Toward this end we will need to continually update our equipment and expand our training programs and facilities. We would like to see an area wide training facility built on our property, serving the departments with which we have mutual aid agreements. Good communications is also essential, as stated before, and repeaters will be needed to accomplish this.

Needs

The most pressing need of our department is replacing our aging pumper trucks, one is a 1968 model and the other is a 1969. Neither of these trucks can meet the current requirement for first line engines. We also need more SCBA air packs and an air compressor for filling our breathing air bottles. As already stated, we will be occupying a new station this summer, but will need to monitor growth patterns for future station placement. As we grow, we will also need more personnel on our department, with the need for additional personal protection gear for these new firefighters. We also will need a utility type trailer to haul such things as extra cribbing for vehicle extrication and possibly trench rescue.

4.5.2.7 Marsing Rural Fire Department

308 Main St
Marsing, ID 83639
Dispatch: 208-896-4444
Roman Usabel – Chief Phone: 208-896-4571

Table 4.3. Fire Apparatus for Marsing Rural Fire Department.

Type	Year	Size	Tank Size (gal)	Pump Flow (gpm)
Pumper	2002	5 ton	1250	1250
Tanker	1996	5 ton	3250	500
Pumper	1963	3 ton	800	1000
Pumper	1974	3 ton	1000	1000
Tanker	1972	2 ton	1350	350
Brush truck	1982	1 ton	300	250
Brush truck	1979	2 ton	500	500

4.5.2.8 Murphy-Reynolds-Wilson Fire District

PO Box 82
Murphy, ID 83650
Owyhee County Sheriff: 208-495-1154
Kenneth Good – Chief Phone: 208-495-1267
Cell: 208-890-1170
Fax: 208-495-9822

Murphy Station

Tanker – 3,400 gallon, 300 GPM transfer pump, 3,000 gallon portable tank, 8'' dump valve, self-priming refill pump with suction and transfer hoses

Class A pumper – 1,250 GPM 2-stage pump, 500 gallon tank, 1,500 gallon portable tank, 1,100 foot of 5" supply line, 500' 1 ¾ " fire hose, foam inducer and nozzle, 3 - 1 ¾" firefighting nozzles, 2 - 2 ½" firefighting nozzles, miscellaneous 2 ½" to 1 ¾" "Y" valves, fire extinguishers, SCBA equipment, spare tanks, booster line with 200' 1" hard line on rewind reel

Reynolds Station

Tanker-Pumper – 1,200 gallon, 300 GPM pump, 300' 1 ½" fire hose, 200' 3" supply line, booster line on rewind reel, 200' 1" hard line and all other pertinent apparatus to be fully operational

Wilson Station

Pumper-Tanker – 1,300 gallons, 300 GPM pump, booster reel, rewind with 200' 1" hard line, 500' 1 ½" fire hose, 200' 3" transfer hose, and all nozzles and miscellaneous equipment to be fully operational

Forest Service Wildland Truck – 4x4, 200 gallons, rewind reel with 200' ¾" fire hose, 100 GPM engine driven pump, 100' 1 ½" fire hose with nozzle (fully equipped)

Givens Hot Springs (Sky Park)

BLM Heavy Pumper-Tanker Wildland Truck – 1,000 gallon tank with 100 GPM pump (fully equipped)

Pumper-Tanker – 1,200 gallon, 300 GPM pump (fully equipped)

Currently the Sky Park residents are housing the BLM truck and a 1,200 gallon pumper-tanker in their personal buildings. The Murphy-Reynolds-Wilson Fire Department would like to build a station in Givens Hot Springs large enough to accommodate a BLM satellite wildland crew and equipment.

The Murphy-Reynolds-Wilson Fire Department has three wildfire tankers with pumper trailers with hoses and nozzles and additional miscellaneous pumps, hoses, protective clothing, helmets, etc. We also have another Class A pumper under repair and hope to have it on line by late summer of 2005. The MRW Fire Department would also like to enlarge the 3 existing stations.

4.5.2.9 Star Joint Fire Protection District

Star Joint Fire Protection District
Kevin Courtney, Chief
Star-chief@cableone.net
208-286-7772
10831 W. State St.
Star, ID 83669

District Description:

Star Joint Fire Protection District is responsible for structural and wildland fire protection throughout the district. The District has a large amount of urban interface to the north and west of Star. The interface is made up of light flashy fuels that through most of the summer are dry and in a burnable state. Therefore a rapid initial attack is required to stop the fire from growing into a large fire incident. Star Fire utilizes its mutual aid agreements on these large scale incidents. The District is protected twenty four hours a day seven days a week by both paid and volunteer personnel.

Star Joint Fire Protection District utilizes their mutual aid agreements with BLM - Lower Snake River District and our neighboring departments. Also in return we frequently responded to resource request to assist the BLM - Lower Snake River District with protection of the Boise front.

Equipment:

501	Structural Pumper Tender	2000 gal.
503	Structural Pumper	1000 gal.
541	Type 6 brush squad Hummer	260 gal.
542	Type 4 Heavy brush squad	750 gal.

543	Type 6 brush squad	400 gal.
521	Tender	1200 gal.
551	Rescue squad	
561	Command Expedition 1997	
562	Command Suburban 1995	

Greatest Resource needs:

1. Procurement of a dual fire station in conjunction with the BLM and Star Fire on Highway 16 just south of Firebird Raceway. The station would give us increased response times plus allow BLM to house engine crews through out the summer so that they are staged in more critical areas. To accompany this station, a helipad would be placed near by so that helicopters used for firefighting efforts would be able to land and coordinate with ground crews to plan their attack.
2. Also the procurement of two water tenders of 3000 gallons would compliment the station and increase the response of water to the scene.
3. An increase in communication abilities so that all crews working on the incident would have the contact with those who are directing the firefighting efforts.

4.5.2.10 Kuna Fire District

Doug Rosin, Chief
rosind@cableone.net

Station 1

PO Box 607
150 West Boise Ave
Kuna ID 83634
208-922-1144
208-922-1135 fax

Station 2

10600 West Kuna Road
Kuna ID 83634

***District Description**:* Kuna Fire Protection District is responsible for structural and wildland fire protection throughout the district. The abundance of dry, light, flashy fuels requires rapid initial attack before fires develop into large wildland incidents. The department frequently utilizes mutual aid in suppression efforts.

Kuna is staffed 24/7/365 by one person throughout the year. Staffing increases during the summer the day shift to three to four people in order to assure rapid initial attack response during the fire season. The department also utilizes a force of 30 volunteers, who staff apparatus housed at Station 2.

Equipment:

601	Station 1	Structural Class A Pumper	
602	Station 1	Structural Class A Pumper	
611	Station 2	Structural Class A Pumper	
625	Station 1	2,000 gallon Tender	
626	Station 2	3,000 gallon pumper/tanker/tender	
641	Station 2	Chevrolet	125 gallon Type 6
642	Station 1	Ford	250 gallon Type 6

645 Station 1 Ford 250 gallon Type 6

Mutual Aid: Kuna RFPD is a member of the Intermountain Regional Mutual Aid Agreement. Kuna is frequently involved with mutual aid incidents with the BLM- Boise District during wildland fire events, as well as with other neighboring RFPD's.

Effective Mitigation Strategies*:* Rapid initial attack and keeping fires small is the most effective means of mitigating resource loss. Increases in both firefighting equipment and water availability are priorities for the district.

Greatest Resource Needs:

- *Procurement of a wildland engine*, preferably Type 3 or 4 with four-wheel drive would help in wildfire responses.
- *Identification and development of water sources* would reduce turn-around time for refilling. Reliable, deep wells need to be identified and developed to allow for drafting or filling in order to eliminate the need to rely on static water sources that are typically far from wildland events.
- *Increases in communication abilities,* particularly in command vehicles during mutual aid responses. Do to the number and differences of frequencies used during mutual aid responses, it is imperative that communication channels remain open between all cooperators. This requires monitoring of multiple channels simultaneously, which can only be accomplished with multiple mobile radios.
- *Increased inter-district training* in order to identify problems such as communication and radio frequencies before an incident.

4.6 Issues Facing Canyon County Fire Protection

There are dozens, if not hundreds of issues that contribute to fire occurrence, strain department resources, and otherwise complicate fire suppression throughout Canyon County. Very short lists of some issues are presented here.

4.6.1 Recruitment and Retention, Funding, Equipment Needs, Etc.

There are a number of pervasive issues that challenge volunteer districts county wide. Among these are issues associated with recruitment and retention of volunteers, lack of funding for needed equipment, keeping pace increases in training requirements, as well as numerous other factors strain fire district's resources. The members of all fire protection districts should be recognized for the dedication they have shown and the excellent level of protection they provide for residents throughout the county. Volunteers take time out of their lives every day in order to assure the safety of the community.

The demands on volunteer departments are considerable. Keeping pace with ever-increasing training requirements can lead to burn-out of volunteers who are scantly compensated for their time and efforts. Keeping pace with the growing needs of the communities the districts serve is a constant challenge as well. Although there are many potential funding sources available for rural districts to acquire equipment and other needs, grant writing and chasing of funding sources takes considerable time and effort. Recommendations that can help to reduce these challenges will be presented in the Chapter 5: Mitigation Recommendations to follow.

4.6.2 Road Signage and Rural Addressing

The ability to quickly locate a physical address is critical in providing services in any type of emergency response. Minutes can make the difference in home survival during fire events or life and death during medical emergencies. Accurate road signage and rural addressing is fundamental to assure the safety and security for Canyon County residents. Currently, there are numerous areas throughout the county that are lacking road signs, rural addresses or both. Signing and addressing throughout the county needs to be brought up to NFPA code in order to assure visibility and quick location.

4.6.3 Inadequate Access to Homes and Subdivisions

Fire departments have frequently cited the lack of adequate access to homes and subdivisions as a significant issue in fire suppression countywide. This is particularly true in rapidly developing areas. Although departments are tasked with checking that access is sufficient for emergency vehicles, the rapid pace of development and the lack of trained fire department personnel result in many developments going unchecked. Developers should plan developments to ensure multiple access points in order to assure adequate access for fire suppression personnel. Furthermore, they should be encouraged to follow all codes through a system of disincentives such as penalties for non-compliance.

4.6.4 Augmentation of Emergency Water Supplies

Residential growth will likely accelerate in the coming years in all areas of Canyon County. Growth will continue to stress rural and wildland fire suppression abilities into the future. It is prudent to address development practices before they become significant issues. Of primary concern to fire departments will be water availability and access. Current county policies do not address these issues adequately, particularly in regard to water availability. County zoning and planning officials need to address this issue in order to assure that new development is built following specifications that will result in a safe and prosperous community.

In many rural areas of Canyon County, there are no readily accessible, year-round water resources available for use by local fire districts. Thus, it is necessary for firefighters to keep large amounts of water loaded on trucks at all times. In the event of a larger fire situation, additional water supplies must be transported to the site. The Canyon County fire districts feel that establishing permanent augmentations to emergency water supplies is necessary throughout the county. This includes establishment of pressurized water delivery systems in subdivisions as well as establishment of dry hydrants and drafting sites where immediate access to water is limited. Retrofitting dependable, year-round irrigation water sources with necessary fittings for use by emergency response equipment would also be highly beneficial. Once developed, these water sources need to be mapped and use agreements need to be made between landowners, rural departments, and the Bureau of Land Management.

4.6.5 Outgrowth of Current Rural Districts

A comprehensive emergency resource plan should be drafted in order to assure development does not out-pace emergency response capabilities. Individual fire district population benchmarks should be established for addition of resources, expansion of staffing levels and building of new stations. Thousands of new homes are expected to be built throughout the county. This population increase will likely outpace current district capabilities in the near future.

4.6.6 Annexation of Unprotected Areas

There is currently a significant amount of land parcels south of Lake Lowell that are unprotected by any fire district. Homes in these areas are at high risk to loss by both structural and wildland fire because a neighboring fire department cannot legally respond to fires outside of their district (except when they have an MOU with another fire district). The wildfire mitigation planning committee has made recommendations to annex these lands into the neighboring fire districts in order to close the gaps in coverage and insure that all residents of Canyon County fire protection. The fire districts affected by the annexation recommendations are Upper Deer Flats Fire Department (6,853 acres proposed), Melba Fire Department (9,838 acres proposed), and Marsing Rural Fire Department (3,327 acres proposed). The cross hatched parcels in Figure 4.1 show the proposed annexation areas.

Figure 4.1. City and Rural Fire District Boundaries in Canyon County.